

COMPLETE PLANS ON RECLAMATION OUT AT WAIKIKI

(Continued from page one)

A large scale and the volume of the fill has been computed from these plans. Plans have also been drawn showing the proposed street system in the reclaimed area. These are submitted with this report.

Method of Filling.
The most feasible method of filling, in view of the fact that there is no dry material available in the near vicinity, seems to be by dredging coral from the ocean bottom off the Waikiki beaches. The situation is similar to that in Kewalo, the ocean being fairly calm except in case of kona storms, but the pumping will not be over such great distances in the first unit as it was in Kewalo, and the district is more open, with very few houses or other obstacles.

Drainage.
Sufficient, even elaborate drainage, is imperative in this project, as the maximum procurable final grade will be very low and sanitation demands that no water be allowed to stand about for any length of time. Otherwise, we have a situation similar to that in the Beachwalk tract, which was filled in without any drainage being provided. During the heavy rainfall of this winter this entire tract has been inundated for days at a time to such an extent that cesspools have overflowed and fouled the standing water. In addition to the heavy rainfall which is to be expected and for which drainage must be provided, channels must also be provided to take the flow of the four streams which flow through the first unit. In order to have data upon which to work, current meter measurements were made by this department, in conjunction with the hydrographic survey department, on January 8, of the three most easterly streams within the limits of the first unit. The results were as follows, taking the streams in order from east to west:

1. 13.9 cu. ft. per second or 9 million gallons per day.
2. No measurable flow.
3. 40.6 cu. ft. per second or 26 million gallons per day.

On January 11 the last and most westerly stream was gauged under the same conditions, giving a result of:

1. 26.8 cu. ft. per second or 17 million gallons per day.

On January 8 the hydrographic survey made gaugings of the two branches of the Manoa stream as follows:

- East branch—180 million gallons per day.
- West branch—95 million gallons per day.

In addition to the Manoa stream, the Palolo stream empties into the swamp. There are no measurements of this stream.

Part of the discharge of these streams is carried away by the Apukama (Outrigger) and Hamohamo swamps farther to the east and the rest by the four streams within the limits of the first unit. From measurements and observations we know that the total storm flow into the sea from the swamp is not as great as the storm flow into the swamp from the easterly streams. The explanation of this is that the ponds, ditches and rice fields in the swamps act as immense reservoirs or storage basins allowing the heavy storm flow to spread out over a large area and remain there until the entrance flow diminishes and the level of the streams becomes lower than the level of the ponds when the stored up water flows out gradually.

As the swamps are reclaimed unit by unit these ponds will be filled up and the storage capacity will decrease, resulting in a greater storm flow and a smaller minimum flow.

The natural course of the streams flowing into the swamp is in a westerly direction so that as the swamp is filled unit by unit the streams will be met farther and farther to the east and it will finally be possible to divert all of the streams through the first unit to provide open rubber-tiled channels to empty into the present culverts on Kalakaua avenue. When the reclaimed district is extended back to the point where all the entering streams may be diverted into the Hamohamo stream these channels may be reduced in size and will need only to drain off the rainfall runoff.

Upon the completion of the filling of the first unit, the maximum flow at Kalakaua avenue may be estimated roughly at sixty (60) million gallons per day and the minimum flow at about thirty (30) million gallons per day. When the whole swamp is reclaimed the maximum flow to be expected during the maximum rainfall will be one hundred and nineteen (119) million gallons per day and the minimum flow will be zero.

As stated above, the streams which now flow through the swamp will have been diverted and this flow will be due to the rainfall only. Inasmuch as the natural direction of flow is away from the mountains and toward the sea, in the reclamation of this first unit provision must be made for carrying off all water, both that which falls on the first unit and also all which will fall on the sections to be reclaimed at a later date; that is, drains must be provided to carry a maximum approximate flow of one hundred and nineteen (119) million gallons per day.

Street System.
In order to carry this flow, permanent drains must be provided of the proper size and construction. Naturally the proper place for such drains is in the streets where they will be under the control of the proper authorities. Therefore, before any definite scheme of drainage can be worked

out or accurate quantities obtained, a street system must be designed and agreed upon which will comprehend, not only the first unit, but the entire area of swamp to be reclaimed. To this end a street system has been designed as shown on the accompanying plans, which comprehends all the wet lands included between King street, McCully street, Kalakaua avenue and Kapahulu road, and a drainage system designed to fit it.

There are several requirements that must be met by an ideal modern street system. Some of these are as follows: It must be a symmetrical system which is not confusing. The system which best suits this requirement is a rectangular system. It must allow the land adjoining the streets to be cut into lots as economically as possible. It must be capable of economical street improvements in the way of paving, trees, etc. It must be laid out with a view to giving each lot the best possible exposure. It must distribute the traffic, and, probably most important, it must allow for effective drainage and sewage disposal.

In the proposed system, advantage has been taken of the fact that King street and McCully street are at right angles. This furnishes a logical base for the system of streets. The proposed streets are laid out parallel to these two base streets, the street running into Kalakaua avenue being forty (40) feet wide and two hundred and forty feet (240) center to center, thus allowing two rows of lots, each one hundred (100) feet deep between streets. These widths may be varied without impairing the system. At right angles to these streets are the main thoroughfares, fifty (50) feet wide and about five hundred and fifty (550) feet apart, so spaced as to intersect about every third narrow street at Kalakaua avenue. The narrow streets on which the bulk of the houses will front are laid out in exactly the direction of the prevailing wind northeast. This allows the breeze to sweep the full length of each street giving each lot the benefit of it, which is a very important consideration in these flat lands.

This makes Kalakaua avenue the main boulevard of Waikiki a diagonal street intersecting all other streets at right angles. Thus the enormous traffic coming down Kalakaua avenue will be diverted into the various main thoroughfares at their junctions with Kalakaua avenue, being from thence diverted into the narrow streets for which it is destined. In all well laid out modern cities the main street is on a diagonal precisely like Kalakaua avenue, feeding a rectangular system on each side. Two well known examples are Pennsylvania avenue in Washington, and Market street in San Francisco.

In the matter of drainage this is the most feasible system.

The paving is simplified by this system, because the street intersections except at Kalakaua avenue are all rectangular, which is the easiest condition for making a good intersection. At Kalakaua avenue will occur the junction of three streets, making a good turning space.

From the point of view of the whole swamp land this is the only logical system, and of course, in reclaiming the small section under consideration that end should be borne in mind.

The only other system which would be considered by any one would be a system of streets at right angles to Kalakaua avenue. Inasmuch as Kalakaua avenue is a very crooked street, this would be impossible and the only way to approach it would be to run them at right angles to an assumed line taken as the average direction of Kalakaua avenue. This would make very bad intersections with both McCully street and King street and would make the drainage much more difficult and the cost of the reclamation greater. In the first unit, at least one, and perhaps two more drains would be necessary and the fill would have to be deeper. The first drain instead of draining a rectangular strip like all the others, would have to drain an enormous triangular piece of land, which would make a tremendously large and expensive drain necessary and also raise the necessary grades, thus increasing the cost of fill.

The volume of fill depends upon the grades established which, in turn, are selected to secure the necessary drainage. The placing of the streets with a corresponding system of drainage, and the resulting grades of fill will materially affect the amount of fill and the saving effected by a good arrangement of streets will offset the cost of the drains. With the street system and the drainage system proposed, the volume of fill has been computed to be approximately 318,200 cubic yards apportioned as follows:

Hawaiian Dredging Company, 53,300 cubic yards; Ahrens & Bowler, 122,300 cubic yards; J. A. Magoon, 32,000 cubic yards; A. A. Young, 109,300 cubic yards; Queen Emma Estate, 1,300 cubic yards.

Cost.
The estimated costs of this project are as follows:
Fill, 318,200 cu. yds. at \$45c. \$143,190.00
Cut (diverting streams and constructing channels), 1,500 cu. yds. at \$50c. 750.00
Rubble walled channels, 1,300 cu. yds. at \$8. 10,480.00
Reinforced concrete drains, 744 cu. yds. at \$15. 11,250.00
Engineering and inspection 8 per cent 13,330.00
Total \$179,000.00

Procedure:
Inasmuch as this Department has no legal authority, under the laws of the Territory, to lay out a street system and insist upon its adoption, it will be necessary that the matter be submitted to the Board of Supervisors of the City and County of Honolulu.

Supreme officers of the Phoenix lodge will be installed tonight. The Tropical Hawaii Glee Club, which goes to China next week, will tender a complimentary concert at the smoker which follows.

FIRST MOVE FOR EXPOSITION IS MADE AT LUNCH

Prominent Citizens Discuss Pan-Pacific Project and Name Committee

Prominent citizens of Honolulu who gathered at the University Club today at luncheon voted favorably on passing a resolution naming an advisory committee to act on the project of a Pan-Pacific Exposition to be held in 1917-18 in Honolulu.

The suggestion was made by Lorrin Thurston that one committee be formed to act in an advisory capacity before a campaign was made to secure funds for the erection of buildings, and the carrying out of the policies advocated by the Pan-Pacific Club.

The following committee was appointed by Alexander Hume Ford at the suggestion of the members present: Walter F. Dillingham, Frank C. Atherton, W. R. Castle, George Rodiek, J. P. Cooke, Walter F. Frear and E. A. Mott-Smith. This committee will report back to the general committee of the Pan-Pacific Club, advising the club on the promotion of the work.

Lorrin Andrews addressed the members present, and in a few words cited the benefits that would accrue from having a Pan-Pacific Exposition held in Honolulu. He dwelt upon the interest that had been taken in the work here, and stated that the exposition would bring big men here with big ideas, and said the exposition would also be the means of establishing Honolulu as a neutrality zone, where all the peoples of the Pacific could meet on a common ground.

Lorrin Thurston in a few words stated that the citizens and the members present should "go slow" as the exposition plan was a big project, and that better results could be obtained by working underneath before the project was launched. In his talk he asserted that a Pan-Pacific Exposition would be a benefit to Hawaii, and urged that the people work for it.

Dr. Syngman Rhee stated the Korean people would work for the exposition and do their duty in every way. W. F. Frear asked that all cooperate in working for the plan to make Hawaii the real "Hub of the Pacific." J. F. C. Hagens said that he believes one committee would be sufficient at the present time, and said that better results could be obtained by placing the project before the Chamber of Commerce. George Rodiek also stated that the Chamber of Commerce would be of help to the committee in formulating plans for the exposition.

Mayor Lane stated that it was a large project and an ideal one, and asked the members to work in a manner that would result in future benefits. He asserted that he would be glad to render any assistance.

Following the luncheon, Alexander Hume Ford spoke, explaining the objects, purposes and scope of the proposed exposition, what had already been accomplished and something of the benefits that would accrue to Honolulu and the territory. In closing, he said:

"Hawaii is rich in the possibilities for amusement of visitors to an exposition. The Chinese here will build their street in Canton on the banks of the Nuuanu stream, with their Chinese bazaar and theater; the Japanese will provide their dainty tea houses and Japanese wrestlers; the Koreans will build their village; the Filipinos will build their and give exhibitions of 'walking up the straight' stein of the coconut tree, besides illustrating native ceremonies, and all of this can be done here without importing aid. The Spaniards near Ewa have offered to reproduce a Spanish-American village, with the sports, games and dances of the Spanish-Americans. The Portuguese will surely have their games and village, and the Russian-Siberians ask space for a small, but permanent cathedral and Siberian village. Space has been asked for an Eskimo village and real Eskimos, and it does now seem up to us to secure villages of native Australians, New Zealand Maoris and South Sea Islanders. No greater, surer attractions than these people would afford with their tribal games, ceremonies and customs, could possibly be secured for any exposition in any land. This great attraction is here at our hand for the asking.

"For several years plans have been quietly developing and work begun and continued on the get-together movement that is to culminate in a Pan-Pacific exposition at Crossroads of the Pacific. All races are ready now to share the burden and responsibility, and while a million or more dollars may be spent upon the buildings and exhibits at the Pan-Pacific exposition, not more than a fourth of this sum may be asked for through public subscription or in exchange for stock, and with everyone cooperating there may be a return and even a cash dividend, but even if this were not the case the expenditure on such a project, with all that it would bring to Hawaii, might well be worth the subscription of such a fund, and we ask you, leaders of Hawaii, for your cooperation, support and assistance, in financing to success the Pan-Pacific exposition in Honolulu, for which we shall work earnestly and enthusiastically during the two years of hope and preparation that is before us."

"The peoples of the Pacific are waiting for Honolulu and Hawaii to say the word," said Lorrin Andrews.

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NEITHER BRIDE NOR TROUBLE IS JONES' LOT YET

Thomas Gather Jones has not found his bride yet nor has he bumped into any trouble through his search for her. He hopes to get the first and has no thought of the second, but he may find he is all wrong.

Gladys Nee, whom he picked Friday to marry Sunday, will not have him and says that she never sent the letter ascribed to her, asking for his hand in marriage. Jones says that he has another candidate for the \$55,000 legacy he hopes to get, but will not tell her name.

If he does marry, his bride will make her home at Schofield for the next few years, not in the pretty little bungalow in Honolulu that a man with hopes of \$35,000 might like to buy, for Jones has been quite definitely identified as Thomas D. Jones (not Thomas G.) of the machine gun troop of the 4th Cavalry, out on a three months' furlough to expire June 9, after serving one enlistment and signing up for another. He has not been wearing a uniform on his furlough and since this is in violation of regulations, unless special permission is secured, Jones may be in for trouble with the military authorities.

"We are assured that all the nations bordering on the great ocean will help, and in a recent meeting in San Diego they proposed that Honolulu entertain the various peoples, and make a name as a real Hub of the Pacific."

"Locally the Pan-Pacific Club has done much to bring the races together and the weekly luncheons have been attended by hundreds, and in this way the peoples of every nationality have had an opportunity to study the other races. Big men have come to the meetings, and an exposition would tend to bring more distinguished visitors here."

"This would be the center of neutrality where the nations could meet to settle any differences that might arise. If the men of Honolulu who have the financial ability will give the movement their services, the plan as proposed by Mr. Ford cannot help but be a complete success."

Those present today were Alexander Hume Ford, Hon. Walter F. Frear, Ernest A. Mott-Smith, J. F. C. Hagens, W. O. Smith, R. H. Trent, John Guild, Lorrin A. Thurston, Lorrin Andrews, W. R. Castle, J. P. Cooke, Mayor John Lane, C. K. Al. Dr. T. Mori, Dr. S. Hasegawa, the consuls of Japan, China, Spain and Portugal.

On the allegation that the defendant committed a statutory offense, N. Nakamura has been granted a divorce from U. Nakamura.

Seven hundred and fifty thousand acres of land have been opened for homestead purposes in Southern California. The government has also opened 1,500,000 acres in South Dakota.

Missouri boasts that she produces annually 25,000,000 corn cob pipes and enough smoking tobacco to fill them.

HAD SUFFERED FOR OVER EIGHT YEARS

Doctors Advised an Operation but Simple Remedy Made It Unnecessary.

For over eight years Mr. U. S. G. Henry, 806 East 6th St., Oklahoma City, had suffered with stomach and liver trouble until finally he could no longer stand the pain. He says: "The doctors told me nothing but an operation would give me relief. I decided to first try Fruitola and Traxo, which relieved me of a quantity of gallstones and I have no further pain or trouble from my old complaint. I would not take \$500.00 for what your remedies have done for me."

Fruitola, as the name implies, is a pure fruit oil, combined with certain harmless salts, and acts as a lubricant on the intestinal parts, softening the congested masses, disintegrating the hardened particles that cause so much suffering and expelling the accumulation to the patient's great relief. Traxo acts on the liver and kidneys; stimulates the flow of gastric juices to aid digestion and removes bile from the general circulation. It is a splendid tonic and serves to build up and restore the weakened, run-down system.

TREE PLANTING AND TRIMMING ARE DISCUSSED

At a meeting of the City Planning Commission this morning Mrs. F. J. Lowrey was appointed a committee of one to appear at a meeting of the Kaimuki Improvement Club Thursday night and propose that it employ an expert to plan the placing of trees in the district.

A suggestion that the commission decide definitely on which plan for a mauka outlet to the Punahou district it would approve was set aside, and George M. Collins, city engineer, asked to bring to the next meeting a map of the Nuuanu valley, which he is having prepared. When this is ready the commission will settle Punahou's troubles.

A motion was passed declaring that the commission favored the plan presented by Mrs. Lowrey on behalf of the Outdoor Circle, providing for the employment of a trained man, jointly by the Outdoor Circle, the gas and electric companies, to trim trees on the city's streets. The secretary was instructed to write to the three companies mentioned, notifying them that they were not to trim trees without the approval of the commission.

There was some discussion of a proposal that the commission raise funds to employ an expert on city planning who would devote all his time to the work, and it was suggested that a committee be appointed to solicit money from the business men of the city for a fund. Nothing came of this suggestion, except that Mrs. Lowrey was requested to inform a business man who has questioned her that the commission is empowered to receive gifts for its work.

There will probably be another meeting of the commission later this week to take up the troubles of Punahou.

SAY REPUBLICAN GETS CLERKSHIP WITH NEW JUDGE

Local political circles were stirred today by the rumor that Circuit Judge Clem K. Quinn, tried and true Democrat, has named as his court clerk a Republican, Lewis Kekumano. Kekumano, who was assistant clerk of the last house of representatives, sailed for Hilo last Saturday to take up his duties with Judge Quinn, who was recently named for the Hawaii bench by the President. That Kekumano, regarded as a staunch G. O. P. man, should be given this bit of patronage is a surprise to members of both parties.

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GETTING COSTUMES FOR PUNAHOU'S PAGEANT

Adopting the slogan, "Songbirds forever and a catless world by 1920," a wealthy Dakota farmer has offered prizes to those who kill the most cats. Mrs. Wade Warren Thayer, chairman of the Punahou pageant costumes committee, and the members of the costume committee will be glad to see any who want sketches and suggestions for their pageant costumes on Tuesday afternoon, May 16, from 2 to 4 o'clock in the ladies' apartment of the University Club. Participants in all episodes including those in the procession of the seventy-five classes, but not including those in the Punahou pennant and those of the Hawaiian group are urged to report at once to the costumes committee.

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